

Selling Engineer Capability to the Maneuver Commander

By Major V. Paul Baerman

The maneuver commander on today's battlefield has a vast quantity of combat power at his call. In addition to the correct employment of his direct and indirect fire weaponry, he can effectively increase his combat power with a variety of combat multipliers, such as smoke and electronic warfare.

One of the most useful combat multipliers is terrain reinforcement, done either by the maneuver unit alone or, most profitably, in conjunction with supporting engineers. However, its usefulness is directly proportional to the maneuver unit's ability to understand and apply terrain reinforcement measures. While it is incumbent on the maneuver commander to understand terrain reinforcement and its contribution to combat power, it is also the engineer's job to increase awareness of terrain reinforcement operations.

Terrain reinforcement (TR) operations are simply those measures that degrade enemy mobility and improve friendly survivability. To be effective, those operations require a fully developed coordination/partnership role between engineer and maneuver unit. Obviously, the maneuver commander must perform terrain analysis to have a good knowledge of the ground on which he will be operating.

There are a number of techniques which engineers can use to demonstrate the value of TR operations to maneuver commanders. This article examines those techniques from the viewpoint of a maneuver arms officer, with the goal of contributing to his awareness of TR operations.

Probably the most important step to keeping maneuver units in tune with TR operations is the establishment of a firm unit-to-unit relationship. Obstacles to the formation of such a relationship are many, but it is essential that these obstacles be overcome. The maneuver unit only appreciates other members of the combined arms team to the extent that those members are known and available. Ways to foster the unit relationship include the mutual exchange and review of training schedules, field training exercises, and classroom instruction. If a maneuver brigade habitually receives the training schedules of each company of the engineer battalion, then the company commanders within the



Claymore mine being set on live-fire range at Fort Carson

engineer battalion should also have access to the brigade's training schedules. Each engineer company commander's platoons should also receive the training schedules of the battalion which it habitually supports. The engineer platoon leader should review the schedule to determine if he can offer assistance with that battalion's training. After a period of time, the battalion should be aware that an engineer is part of the team, willing to assist.

Likewise, the engineer would be smart to send his company training schedule to the brigade operations staff officer (S-3) if there is training being conducted in which units of brigade could participate. To promote the unit-to-unit relationship, the engineer has to "sell" himself and his product. Regular, personal visits by engineer platoon leaders and company commanders also go far in promoting their "product" and improving training schedule interaction.

Report Documentation Page			<i>Form Approved OMB No. 0704-0188</i>	
<p>Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p>				
1. REPORT DATE APR 2011	2. REPORT TYPE	3. DATES COVERED 00-00-2011 to 00-00-2011		
4. TITLE AND SUBTITLE Selling Engineer Capability to the Maneuver Commander			5a. CONTRACT NUMBER	
			5b. GRANT NUMBER	
			5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)			5d. PROJECT NUMBER	
			5e. TASK NUMBER	
			5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Army Engineer School,Engineer Professional Bulletin,464 MANSCE Bldg 3201 Ste 2661,Fort Leonard Wood,MO,65473			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)	
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited				
13. SUPPLEMENTARY NOTES				
14. ABSTRACT				
15. SUBJECT TERMS				
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 3
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified	19a. NAME OF RESPONSIBLE PERSON	

Maneuver unit exercises should include engineer support or expertise. Of course, the field training exercise (FTX) is the most obvious example, but there are numerous other opportunities for engineer support or expertise—command post exercises (CPXs), war games/simulations, sand tables, training exercises without troops (TEWTS), terrain walks, and so on. TEWTS and terrain walks offer particularly good opportunities for the engineer to assist and foster knowledge of engineer capabilities.

TEWTS are generally low-key exercises that offer ample time for interchange of ideas, impromptu classes, and understanding of each other's jobs. At some time during these activities, the engineer should be explicit in pointing out where he *cannot* help and where the maneuver commander must help himself. Engineer expertise does not necessarily mean officer presence.

In many cases, lower-ranking, knowledgeable engineers might prove more worthwhile—for example, a D-7 operator talking to a maneuver platoon leader. In particular, the engineer should stress those items which he considers in an engineer reconnaissance.

Officer and NCO classes also present opportunities to promote unit relationships. Again, it is a matter of the engineer forcefully “selling” himself and his product. There is enough change in engineer doctrine, when coupled with maneuver doctrine changes, to accommodate numerous engineer presentations to unit officers and NCOs in a classroom environment.

An additional opportunity for promoting unit relationships occurs when the brigade engineer and his subordinates participate in unit social functions.

But there is probably no better place to establish the capabilities of TR than during training. Here, the engineer can offer his expertise to train individuals, or he can offer training tips to the maneuver unit commander.

Many basic TR tasks are included in maneuver unit Soldiers' Manuals and Skill Qualification Tests. A unit can save valuable time by “packaging” hands-on training in kit form. One kit might come in a footlocker-size container and deal exclusively with the unit's authorized mines. The kit would include all the mock-up mines (from TASC), any graphic training aids (to be handed out to the troops), plus laminated cards on which instructions for emplacement and retrieval of each type of mine are included.

Kits can be used at small unit level during slack time (such as in the motor pool), for regular training periods, as concurrent training, or for inclusion in inclement



Destroying a mine in place with C-4

weather schedules. Because kits are prepackaged, they can be used quickly and with little advance preparation. Other similarly designed kits could cover such subjects as troop-emplaced obstacles (such as fougasse), demolitions, and booby traps.

Range training should be conducted with an eye to maximizing the potential of the range. By coordinating with the appropriate range authorities, units can conduct interesting, realistic TR training while on another type of range.

How many times have you seen troops bored to death with concurrent training, such as weapons assembly and disassembly, while waiting to fire or awaiting transportation? Spice up their life a bit—let them fire a claymore, or prepare and set off a demolitions charge, or build a flame mine. It's guaranteed to keep their interest and avoid training doldrums. The engineer can provide the expertise to start this training and, at the same time, to get across the importance of TR operations.

There are a number of easy ways, while in the field, to increase the maneuver commander's awareness of the use of obstacles and the effectiveness of terrain reinforcement. Many of these ideas use soldier ingenuity and promote the kind of thinking that will help overcome the odds we might be faced with on the European battlefield.



Bangalore torpedo set to fire

Here are some examples:

- Since mines are difficult to portray in the field (unless you use TASC mock-ups which must be accounted for and cost money), take scrap 2x4 lumber and cut it into 6-inch lengths. Paint the resulting blocks blue, and stencil the word "MINE" on top and bottom. Several hundred of these can be made up and issued for field training. If some are lost, it doesn't really matter. Scattered throughout an avenue of approach, these dummy mines force an attacker to perform some sort of mine-clearing action. To make the situation more interesting, bury a tear gas grenade (with pin pulled) in the ground and put a block on top of the grenade spoon. Anyone who comes along and kicks or lifts the dummy mine will set off the tear gas. This is called mine awareness and causes the attacker to slow down and be more careful when he encounters "blocks" the next time.
- Counter-strike (CS)/smoke grenades with pins pulled and buried in a road obstacle will definitely slow the combat engineer vehicle (CEV)/tank dozer crew that pushes down the obstacle and sets off the grenades. The crew will also be more careful at the next obstacle.
- CS powder and/or pellets can be used to increase the value of less substantial obstacles by creating confusion or more difficult working conditions. How do you disseminate the CS? Tie or tape a baggie, with CS powder or pellets inside, to every smoke grenade or smoke pot. No matter what color smoke, one whiff of the burning CS and masking procedures will slow everybody and make them more wary.
- TR operations also include survivability of the friendly force. Survivability not only includes digging in personnel and equipment, but deceptive measures to increase

the lifespan or usefulness of fortifications. The tube-launched, optically tracked, wire command-link guided (TOW) and Dragon are crucial antitank weapons that must be protected. If you've had that maneuver unit out with their claymores, suggest splicing several strands of used claymore wire together and wire a TOW M-80 blast simulator to the ends of the claymore wire, setting the entire device off with the claymore "clacker." Voila! They've duplicated the signature of the antitank missile firing without giving away their position.

Such actions will increase the value of obstacles and, more important, increase the maneuver unit's interest in TR planning. "Tricks of the trade" of this sort allowed an armored cavalry platoon scout section, ably supported by engineers, to bottle up a mechanized infantry battalion for more than four hours in one recent exercise. And the scouts and engineers thoroughly enjoyed themselves!

These are just a few of the methods by which engineers can better sell their product to maneuver commanders and make the combined arms team more effective. The more aware that the maneuver commander is of his engineer assets and their capabilities, the better off he and his engineer partner and their soldiers will be.

Major Baerman is an armor officer who wrote this article while attending the Command and General Staff College. Previous assignments have included command of a tank company and armored cavalry troop and assignments as a battalion, brigade, and squadron S-3.

This article is reprinted as it appeared in *Engineer* (now known as *Engineer, The Professional Bulletin of Army Engineers*), Volume 9, Number 2, page 27, Fall 1979.